February 1, 2007: Address to NDIA National Security Space Policy and Architecture Symposium

Remarks

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NDIA National Security Space Policy and Architecture Symposium

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"Near-term Strategic Imperatives"

I thank NDIA for the invitation to speak before you today. Too often we see individual programs come to the Hill without a broader context of how those programs come together and fit within a larger strategy and policy. I am pleased to see a conference feature space policy and architecture as its core theme.

This is an opportunity for me to share my thoughts on two important issues facing Congress in the national security space arena.

1) The first is the defense of U.S. space assets. The January 11th Chinese anti-satellite test is a striking example of the real and immediate threat to space. This is a loud cry for devoting greater attention to space protection.

2) The second is the state of space acquisition. This appears to be a prominent theme in the conference agenda and as some of you have heard me say before, one that is not lost on Congress.

CHINA ASAT

I took the news of the recent Chinese anti-satellite test with great alarm, but not surprise. For some time now I have been concerned that China and others are developing capabilities that pose a serious threat to U.S. space assets and our ability to use space.

I spoke at a conference in Omaha this past October and emphasized that protecting our capabilities and interests in space is more important than ever, given the threats I saw on the horizon combine with our ever-increasing dependence on space.

On January 11th, the Chinese launched a medium range ballistic missile into space. It targeted an aging Chinese weather satellite orbiting 500 miles above the planet.

The kill vehicle rammed into the target satellite sending out thousands of pieces of debris into orbit of varying sizes, and speeds, up to 1,400 miles per hour, according to Air Force Space Command. This debris is significant and has the potential to stay in orbit for years to come.

The U.S., with its space surveillance network, will bear the long-term responsibility for warning others of potential collisions, including foreign and commercial operators, and ironically, the Chinese. I remember seeing a picture of the Space Shuttle window after a paint chip collided with it at over 17,000 miles per hour. Particles a few centimeters in length are large enough to cause major damage. I don't want to imagine what a collision would look like between one of our satellites and a piece of the destroyed Chinese weather satellite.

A more likely result is that the Shuttle, International Space Station, and our satellites will need to expend precious fuel to maneuver around debris. At some point, our satellite operators will do the math and determine the loss of "mission life" due to this extra fuel use and maneuvering. This could be a sizeable impact when we're talking about multi-billion dollar satellites and no "hot spares."

While some have said that we should not be overly worried about this event, I believe this is a clear wake-up call for the Administration, Congress, and the American people. I have asked the Administration to devote more attention and resources to the protection of our space-based assets. The United States has more satellites in orbit than any other nation and, as such, we are more dependent upon their reliable presence to provide us with everything from A-T-M card transactions to battlefield intelligence.

This is a significant, and reckless, act by the Chinese. While the Chinese have firmly denied any mal intent in their recent test, I can only look to their other activities and remain highly skeptical. Apparently, this single test is part of a series of direct-ascent ASAT tests, which is part of a broader effort to develop counter-space capabilities. This is consistent with their larger military modernization and advanced technology efforts. A similar observation was made in the recent report by the bi-partisan U.S.-China Economic and Security Review Commission.

China has been a student of U.S. space operations dating back to Operation Desert Storm. China knows all too well the advantage space offers the U.S., as well as the vulnerabilities that exist in that area. China's military planners have advocated the use of technology that would deny us access to our space assets; a tactic which would be consistent with what many consider China's unofficial doctrine of asymmetric warfare. This begs the strategic question, why did they conduct the A-SAT test, and what do they hope to achieve?

We have not seen an ASAT test in over 20 years. At the height of the Cold War, both the U.S. and the Soviets had ASAT capabilities, but we both understood that a satellite attack could mean nuclear war. Today, the implications of an attack that persisted in the Cold War seem to have diminished. In the past few years, we've seen a handful of GPS and satellite communications jamming incidents with few repercussions for the perpetrators. What is most troubling is that these attacks are coming in a period of widespread use of GPS, satellite communications and space-based imagery.

Today's environment has changed. This group knows all too well how important satellites are to our armed forces, policy-makers, environment, and the economy. Frankly, many of you have been helpful in educating members of Congress and the public on this.

Last June, as chairman of the Strategic Forces subcommittee, I held a hearing to better understand our military and economic dependence on space. General Kehler, vice-commander of STRATCOM, provided several examples of how space capabilities are integral to the daily execution of virtually every military campaign, operation, and exercise involving U.S. forces today. On the commercial side, the director of the Satellite Industries Association estimated that space contributes 90 billion dollars annually to the global economy. Not only has space become essential to modern warfare, it has established itself as a permanent utility in our global commerce.

The much talked about Chinese A-SAT test is but one of a range of potential threats looming on the horizon, including jamming, laser "dazzling," micro-satellites, direct ascent A-SATs, cyber attacks, physical attacks to ground stations, and possibly even a nuclear explosion.

Our satellites are also vulnerable to less malicious threats including space debris, which I mentioned earlier, close approaches, solar flares, and severe weather damaging ground stations.

As a national security space community, and as a nation, we have a vested stake in protecting our interests in space. This includes both the need to protect our space systems and preserve our assured use of space.

The Chinese A-SAT is but one striking example of why I believe this issue requires urgent attention.

Based on my discussions with senior military leaders, I do not believe we have the necessary resources to address these threats, contrary to what some have argued. First and foremost, we need to continue to develop space situational awareness capabilities. As we learned on 9-11, seemingly benign systems can have severe hidden offensive capabilities.

An object that appears to be orbital debris or a research satellite may, in fact, be an A-SAT targeted at U.S. or friendly assets. Likewise, noise in a data link may be accidental interference or intentional jamming. We are limited in what we can do in space without knowing what is going on up there, and being able to attribute a hostile event to the right actor.

We also need to examine various options to increase the survivability of our space capabilities. This includes rapid replenishment, redundancy, hardening, distributed architectures, alternatives such as U-A-Vs, active and passive measures, reversible and non-reversible means, and non-material solutions.

I have hope for one solution in particular. The 2007 defense bill authorized the Operationally Responsive Space program office. O-R-S offers promise not only as a way to supplement a battlefield commander's capabilities, but also to quickly replace damaged or destroyed satellites to meet the immediate needs of the warfighter.

In addition, O-R-S might also serve as a deterrent to nations pursuing programs to threaten our satellites. If we have numerous O-R-S systems in space along with more traditional military and intelligence satellites, then we can rapidly reconstitute our space assets. This makes it a lot harder for an adversary to effectively deny us our space-based capability.

Here is where I ask for help from the space architecture experts here today. S-S-A and options for protecting our space assets must be looked in total and weighed as part of a space protection strategy. These include:

How threat assessments are incorporated into the requirements process and, in turn, acquisition programs;

- What is the right mix of S-S-A and protection capabilities and how do these capabilities fit together; and

- Recognizing we will not be able to protect, nor can we afford to protect, all systems to the same level, how should we prioritize what to protect.

- Lastly, what implications does this incident have on our future space architecture? Specifically, what will we buy, how will we buy, and where will we fly?

The Chinese A-SAT test also rekindles a larger policy discussion on how we use space and how we protect our interests in space. I understand there are differences of opinion here. Some have argued for arms control measures which ban "space weapons." I'll be frank with this group. I do not normally support arms control measures.

In the space arena where satellites can have offensive capabilities, I find it would extremely difficult to verify and enforce any arms control measures.

More to the point, we don't have a clear definition of "space weapons," that we can all agree on which makes it difficult to engage in meaningful debate. Here is my definition. A space weapon could be a kinetic or directed energy source going from ground-to-space, air-to-space, or space-to-space and vice-versa. It could also include an attack against a ground station, which I would argue is equally effective on satellite operations as threats in space. If you use this definition, then space is already "weaponized."

I look forward to this debate. We've spent the last few years setting the stage. I believe in leaving all options on the table and discussing their merits. I want to avoid seeing us limit our options in space.

These threats and our vulnerabilities are real. I've said it before. I believe we should defend our space assets and use of space by any means necessary. Space is too important to our national security and economy not to.

SPACE ACQUISITION

We all know space is a challenging domain. Its programs are highly technical and its issues are complex. However, what members of Congress can relate to is what space does for the guy on the ground, how it enables commerce, and protects our armed forces. We've had a big change in Congress and considerable changes in the makeup of the subcommittees that oversee space issues and programs.

I touched on this earlier but it bears repeating, your support in educating members of Congress and their staffs on the importance of space remains essential.

We have tough defense budget choices ahead of us given costs associated with Iraq, the Global War on Terror, and force reset and modernization. The President wants to eliminate the federal deficit in the next five years and impose greater spending discipline. This is the context in which Congress must view spending on space.

Unfortunately, members of Congress are seeing major space programs consume our scarce resources. Congress is asked to fund something the size of a car or small bus, with a multi-billion dollar price tag, that won't launch for ten years. Though space programs generally receive bi-partisan support, it is becoming a tough sell.

It's an even tougher sell when these programs run billions of dollars over cost, and are years behind schedule. At the same time, D-O-D continues to push ambitious, expensive new programs. This makes it harder to balance and fund all these activities, without making cuts to big ticket programs like T-SAT and Space Radar.

The Space community further hurts their case when they can't agree on a way forward on critical programs. Space Radar comes immediately to mind. Congress recognizes these systems are too expensive and complex for agencies to go solo; jointness is critical.

As other speakers before me have discussed, we need to improve space acquisition.

FIRST THINGS FIRST.

- Focus on near-term capabilities.

- Follow through on existing acquisition programs such as SBIRS, W-G-S, and G-P-S Two-F.

- Show us these can work. I've made similar comments to the missile defense community, calling for them to focus on near-term priorities. Show us Ground-based Midcourse Defense can work, and work reliably, through sound engineering and testing.

I am encouraged by Dr. Sega's "Back-to-Basics" approach, and believe real progress and results will be seen in its implementation.

Congress will be less likely to support new starts unless we see a significant need, as well as a realistic cost estimate and schedule.

These acquisition programs are difficult, and I know that many of you work hard at getting it right. Collectively, we can do better. Delays in critical space programs can have ripple effects on other D-O-D-wide programs, such as the Future Combat System, U-A-Vs, and missile defense, all depend on space.

Government and industry must increase confidence in cost estimating, mitigating risk, quality control, and improving systems engineering. Congress must do better to provide constant and reliable funding for these programs. If we are ever to see the benefits of Operationally Responsive Space, we must have a responsive acquisition infrastructure.

I am committed to maintaining U.S. leadership in space. We need to work together to get it right, for even the best warfighter capability must be affordable. The development and operations of national security space systems are too complex and costly for any one organization to go it alone. We must be mindful that there is one set of national needs.

Advancing U.S. strategic forces leadership is a multi-dimensional challenge, and will require the best minds in government, industry, and academia working together. I am humbled by the great responsibility we bear and by the courageous men and women of the armed forces we support. To this end, I look forward to working with each of you as we move forward in national security space.

Thank you again for the invitation to speak today. And thank you for your dedication and service in furthering our national security in space.